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ABSTRACT

This study was designed to assess the extent to which certain parent-child interaction variables (particularly those concerned with socialization) and the child's language background, influenced early school achievement. Subjects were 106, 4-year-old children and their parents who participated in a compensatory preschool intervention program. The program consisted of two major elements: (1) an early education program for the children, conducted in a classroom setting five mornings per week; and (2) a parent participation and education component. Participants' racial-ethnic backgrounds were Mexican-American, black American, Yacqui Indian, and Anglo. Results indicate that the difference in parents' skills as socialization agents, regardless of the language used at home, influences achievement. (ED)

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Effect of Parent Involvement
In An Early Intervention Program
Upon Environmental Process Variables Related to Achievement

Early intervention programs based upon the parent-as-a-teacher model have assumed that a large portion of the influence that stems from the relationship between family background and achievement is directly attributable to the quality of parent-child interaction processes. Unfortunately, while the research findings are persuasive concerning the influence of various maternal competencies upon different aspects of a child's intellectual abilities, it is also inconclusive in that socio-economic status (SES) differences, limitations in the aspects of parental behaviors observed, and the generalizability of the results to global measures of intelligence and achievement confound interpretations of the data (Streissguth and Bee, 1972).

The Environmental Process Variables

Research originated at the University of Chicago by Wolf (1964) and Dave (1963) characterized some of the major dimensions of family environments (distinct from more general SES characteristics) that account for approximately 50 percent of the variance in children's IQs and achievement. The term "environmental process variable" (EPV) was used by Wolf to specify educationally relevant aspects of family environment. The EPVs are broad categorizations of family environments under which are subsumed more specific attitudes and behaviors measured by parent responses to interview questions.

In related studies, Henderson (1966, 1972) demonstrated that eight EPVs are important to the school achievement of lower class Mexican-American first grade children.

More recently, the Henderson Environmental Learning Process Scale (HELPS) was developed for applications of this research to field situations of educational intervention (Henderson, Bergan, and Hurt, 1972).

Some of the items contained in the EPV research pertain mainly to parent-and-child interaction processes. Other EPV items, while still parent-initiated, require the parent to be familiar with and extend the child's school-based activities. Still other questionnaire items subsumed under EPV categories are related to material conditions within the home environment such as the number of books and magazines in the home, or refer to characteristics of the parents such as their aspirations for themselves or their beliefs about the importance of education.

While the research has shown that composite EPV scale scores account for approximately 50 percent of the variance in children's IQs and achievement, the number and kind of separate EPV dimensions of family environments has varied with the researcher. For instance, Wolf (1964) specified three EPV aggregates, Dave (1963) specified six EPV aggregates, and Henderson (1966) specified eight EPVs in his original study and five EPVs in the HELPS instrument designed to assess the impact of intervention programs (Henderson, 1972).

Despite the predictive efficacy of the overall EPV scales, the validity of the EPV composites as separable dimensions of family environments has been questioned. In a work in progress, Williams (1974, pp. 25-30) has shown through factor analysis of data from the Wolf (1964), Dave (1963), and related research that a single factor interpretable as a

gross indicator of environmental quality on which all the EPVs load accounts for between 50 to 80 percent of the total variance on the scales. This finding seriously limits the explanatory power of the EPVs as separably measurable dimensions of parent-child interaction. As such, the categorization of specific parent behaviors under more general EPV rubrics must be seen as a conceptual convenience rather than as an empirically valid procedure.

It is not clear if the EPVs are readily modifiable through parent involvement in early childhood education or if they are relatively stable like SES characteristics and, therefore, unlikely to change as a result of intervention. While the Wolf (1964) study demonstrated the independence of EPVs and more general SES measures, the Henderson (1966) study showed a close relationship between the two. Further, the relationship between some EPVs and a child's ability and achievement may vary with the child's age. For instance, while Henderson (1966, 1972) showed that "Academic Guidance" predicted the achievement of first grade children, Saldate (1972) found the reverse to be true of sixth grade children.

Socialization Versus Enculturation Dimensions of Family Competency

Enculturation is the total process through which man adopts the framework of ideas, customs, beliefs, and behavior patterns of those of his cultural group. Enculturation is an all-encompassing construct and denotes the learning that occurs through observation, through participation as a member of a social group, and through direct and explicit guidance and teaching. Socialization refers to the procedures through which parents and others directly pattern the young child's role behavior in the process of helping him become an acceptable member of the human

group. "Enculturation is therefore a more inclusive term than socialization, which refers to the process by which a person becomes a member of society . . ." (Kneller, 1965, p. 42).

Socialization implies some direct intervention by adults in the lives of the young, whereas enculturation is not limited to parental direction of children's developmental processes. Socialization also includes the many other ways children learn from their surroundings, many of which are elusive and poorly researched. Although the phrase "conscious and unconscious conditioning" was used by Herskovits (1955, p. 326) to define the processes of enculturation, either term can refer to processes initiated deliberately for specific reasons or to processes that are part of the larger and less rationalized fabric of social life.

The EPVs discussed thus far, while subsumed under formal category headings that suggest only the socialization practices in the home environment that relate to school achievement, are in fact measures of aggregates of environmental factors associated with the processes of enculturation. While there may be some spin off from parent participation in early intervention programs that could result in changes in the sociocultural environment of lower-class family life, these effects may be too indirect to be measurable in terms of children's achievement. Furthermore, the stated goals and objectives of early intervention programs emphasize teaching parents improved strategies of interacting with their children in order to promote the child's intellectual growth and development, i.e., to improve the socialization that occurs in the home environment, and are not primarily vehicles of adult education.

In intervention research that seeks to detect the effects of parental competency, as differentiated from family background, upon children's achievement, it may be important to distinguish the socialization EPVs from the more global enculturation EPVs.

The Intervention Program

This study concerns the Parent and Child Education (PACE) Project (funded by Title 1 of the Elementary and Secondary Education Act) conducted in eight elementary schools in Tucson, Arizona, during the 1972-73 school year. This intervention program, which relied upon the parent-as-a-teacher model, consisted of two major elements.

The first element was the early childhood education program conducted in the classroom five mornings a week for four-year-old children. This program resembled the traditional early childhood education curriculum in that it provided a variety of learning experiences, toys, and manipulative materials. Language and concept development were the major instructional emphases and permeated all adult-child interaction, including a variety of activities which involved the preparation and serving of snacks and meals.

The second element of the program was the parent participation and education component. This component included both bimonthly parent participation in the classroom activities and bimonthly home teaching visits by teachers and aides. During these visits, parents were instructed in techniques for improving their child's language and concept development through learning activities that could be provided in the home environment. In addition to these primary components, parent activities were conducted which ranged from formal meetings at the school to explain the curriculum to social gatherings and field trips.

Bilingual communication in Spanish and English was an important aspect of the intervention program and was implemented through the employment of bilingual instructional aides, Spanish classes for the program staff, the use of Spanish in the curriculum, and the development of bilingual educational materials for parents to use with their children.

Statement of the Problem

The general problem of this research was to determine the extent to which parent-child interaction variables believed to be related to school achievement, herein referred to as socialization-EPVs, and children's language background, both separately and in combination, influenced the early school achievement of four-year-old children at the beginning and at the end of a compensatory preschool intervention program. A secondary problem was to determine the impact of the intervention program upon parental competencies within the socialization-EPV domain and to determine if there were differences between groups of parents in socialization EPV level whose children entered the program speaking both Spanish and English, predominantly Spanish, or predominantly English. An additional problem was to assess the level of enculturation-EPVs within the group, to determine the degree of change occurring as a result of the intervention program in this broader dimension of family environment and to determine the degree of relationship between socialization and enculturation EPV measures of the same family environments.

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Method

Sample

The sample was composed of 106 four-year-old children and their parents or parent substitutes who participated in the Parent and Child Education Project, an ESEA Title 1 program sponsored by the Tucson Public Schools in eight elementary schools during the 1972-73 school year. Forty (40) children entered the program as Spanish-English bilinguals, 56 were predominantly Spanish speakers and 20 children were predominantly English speakers upon entry into school. In racial ethnic background, 78 children were Mexican-American, 13 were Black, 13 were Yaqui Indian, and two were Anglo. Parents had obtained an average of eight years of education.

Data Collection

Pre and post measures of children's preschool achievement were obtained on The Evaluation Scale for Four- and Five-Year-Old Children (ES), a teacher rating scale developed by Butler (1965).

Teachers and aides rated parents' socialization-EPV level pre and post on a seven-item Likert-type scale, the Home Variables Scale (HVS). The HVS items were designed to measure parents' educationally salient interaction skills with their child in the areas of guidance, modeling, extending the child's language and reasoning, and the parents' behavior and attitudes toward home and school visits (see Appendix A). Veldman's (1967, p. 173) TESTAT program was used to reduce the data and established the alpha coefficient of internal consistency for the HVS at .85 on the pretest and .87 on the posttest. The HVS was extracted from a larger Home Visitation Report (HVR) modelled on an instrument used by Weikart et al., (1971) to monitor home teaching visits.

A simple 50 percent random sample of parents were interviewed pre and post on the Henderson Environmental Learning Process Scale (HELPS). The questionnaire was administered in either Spanish or English depending upon the language preference of the respondent. The HELPS served as a measure of enculturation-EPVs in the Wolf (1964) tradition. The EPVs, named as subscales on the HELPS were aspiration, environmental stimulation, models, guidance and reinforcement. An additional 25 percent random sample of the parent group was interviewed on the HELPS at the time of the posttest only in order to examine the possibility of a practice effect. Two of the 55 HELPS items, numbers 29 and 47, were eliminated from the HELPS interview since they were inappropriate for preschool children, i.e., parental help with homework. These items, as all other missing data, were assigned a value of one in the data reduction procedures.

Results

Analysis of Variance of Children's Achievement By Parental Socialization-EPV Level and Child's Entry Language

A 2 x 3 x 2 split plots (Kirk, 1969, pp. 246, 247) analysis of variance of children's achievement tested a variety of hypotheses concerning the relationship of achievement, language, parental socialization-EPV level and trials. Groups were split at the median on the HVS, the measure of parental socialization-EPV level, and divided on the basis of Spanish-English bilingual, Spanish and English speaking entry languages (the procedure for blocking on entry language is described in Appendix B).

As shown in Table 1, there was a significant ($p < .001$) main effect in the mean level of student achievement between children whose parents were rated above and below the median on the HVS.

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Insert Table 1 about here
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As indicated in Table 2, the ES mean across trials for high HVS children was 97.42 points while the low HVS children's mean was 78.86. A significant ($p < .001$) main effect was found between pre and posttest ES means.

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Insert Table 2 about here
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There were no differences in the achievement levels of children entering the program as predominantly Spanish-English bilingual, Spanish or English speakers. The means for groups blocked on language are reported in Table 3.

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Insert Table 3 about here
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No interaction effects occurred between parental socialization-EPV level and the child's entry language, nor did time (trials of the test) influence the relationship between the variables. Figure 1 illustrates the data and shows that regardless of child's entry language the ES mean is greater for children of high HVS parents than for the children of low HVS parents.

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Insert Figure 1 about here
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The means for groups blocked on HVS and generalized over trials are reported in Table 4.

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No interaction effect occurred between child's entry language and repeated measures on the ES; however, the obtained probability value of .0577 was less than one point above the specified level of statistical significance. Table 3 indicates that bilingual children gained approximately 14 more points than did English monolinguals. Figure 2 shows that while the bilingual and English ES means are essentially the same on the pretest, the bilingual mean exceeds the English mean on the posttest. The rank order between groups changes over trials from bilingual = English > Spanish on the pretest to bilingual > English = Spanish on the posttest.

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Insert Figure 2 about here
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Impact of Intervention on Parental Socialization-EPV Level

A 3 x 2 analysis of variance design was employed to determine whether there were differences in parental socialization-EPV level as a result of child's entry language and/or as a result of intervention. As shown in Table 5, parents improved ($p < .001$) in their socialization-EPV skills, as measured by the HVS, during the intervention program. There were no differences in parents' HVS means as a function of the child's entry language and no language-by-trials interaction term was found.

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Insert Table 5 about here
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Impact of Intervention on Parental Enculturation-EPV Level

The effect of the intervention upon parents' enculturation-EPV skills was tested through a correlated t test between pre-posttest HELPS total and subscale means. As presented in Table 6, there were no significant differences found between pre-posttest total HELPS means, nor between four out of five of the subscale means. The exception was the Environmental Stimulation subscale on which there was a significant mean increase at the .01 level.

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Insert Table 6 about here
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Pretest scores on the Environmental Stimulation subscale were relatively lower than pretest scores on the other subscales. The pretest mean by item for the Environmental Stimulation subscale as indicated in Table 7 was the only subscale where responses were below the item midpoint of 3.0 in the five-point scale used on the HELPS. Both the Aspiration and Reinforcement pretest means were so high that a "topping" out effect, where scores are so high that there is little probability of increasing their level in a subsequent test, may have influenced the results. The relatively low Environmental subscale mean in relation to other HELPS subscale means is in agreement with the results reported by Saldate (1972) in sampling a group of Mexican-American parents of sixth grade students on the HELPS.

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Insert Table 7 about here
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In order to compare the HELPS pretest scores of 22 program dropouts with the pretest scores of the 50 parents who remained in the program, a t test between uncorrelated means was computed. As indicated in Table 8, the difference of 4.75 points between the dropout group and the pre-post group was not statistically significant. Therefore, it would seem that the parents who dropped out of the program were not different in the level of EPV advantages they provided to their children than the parents who remained in the program.

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Insert Table 8 about here
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In addition, the HELPS data were analyzed for a possible practice effect occurring from repeating the HELPS interview since the instrument had not previously been used to obtain measures of change in the EPVs. The means of the pre-post group were compared to the means of a sample group of program participants who were tested once only, at the same time that the posttest was administered. The statistical significance of the difference was analyzed with a t test between uncorrelated means. Table 8 shows that the HELPS means of the group who took the posttest only was not statistically different from that of the group who took both the pretest and posttest.

Influence of Enculturation-EPVs Upon Children's Achievement

In analyzing the relationship between parents' HELPS scores and children's ES scores, all items referring to spouses or calling for the opinion of the respondent were deleted from the HELPS data. Table 9 shows that essentially the same results for pre-posttest mean differences

were found on the reduced 42 item HELPS scale as had been obtained for the full 55 item scale.

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Insert Table 9 about here
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Dividing the sample of 50 children at the median of their parent's HELPS scores on both pre and posttests, no differences were found between the ES means of children whose parents' scored high and low on the enculturation EPV measure. The data, as presented in Table 10, show that there is a mean pretest difference of 12.16 ES points in favor of the children of high pretest HELPS parents; however, the statistical significance of the difference ($p < .1$) did not reach the .05 level specified in the research design. All other mean differences reported in Table 10 are not statistically significant. Therefore, the null hypothesis of no differences between the ES means of children whose parents scored above and below the median on the HELPS pretest or posttest is affirmed.

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Insert Table 10 about here
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Relationship Between Measures of Socialization-EPVs, Enculturation EPVs and Children's Achievement

As indicated in Table 11 the correlation coefficient obtained between the two pretest measures of the EPVs, the HVS and the HELPS, was not statistically significant. However, the correlation obtained between the posttest HVS and the posttest HELPS was statistically significant at the .01 level.

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Insert Table 11 about here
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The difference between the correlation obtained for the pretest HELPS and the pretest ES in contrast to the correlation obtained for the pretest HVS and pretest ES was not statistically significant. As reported in Table 12, $r = .21$ for the HELPS and ES pretests and $r = .46$ for the HVS and ES pretests. The difference between the two pretest correlations was not statistically significant ($z = 1.38$). The correlation for the HVS and ES posttest was .66 and for the HELPS and ES posttest $r = .16$. The data given in Table 12 show that the difference between the two posttest correlations was significant at the .01 level ($z = 3.06$). Therefore, the null hypothesis of no difference between correlations was affirmed in regards to pretest measures and rejected in regards to posttest measures.

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Insert Table 12 about here
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Discussion

The results of the study indicate that parental behavior in the socialization-EPV domain strongly influences the child's achievement level upon entry into and exit from a preschool intervention program at the age of four and that it is the difference in parent's skills as socialization agents, regardless of the language used in the home, that influences achievement. The results of this study concerning language suggest that children's early school achievement is relatively uninfluenced by entry language, and that parental competency is uninfluenced by language differences, when both the child and parent participate in a program designed to accommodate the Spanish-English bilingual members of the population served.

It may be that the impact of early intervention upon the home variables that influence achievement is located within the socialization learning domain of parent-child interaction rather than within the enculturation learning domain of the child's wider social environment. Socialization-EPVs, as measured by teacher and aide ratings on the HVS, were shown to be related significantly to the preschool achievement of four-year-old disadvantaged children and these socialization-EPV parental skills were shown to improve significantly as a result of intervention. The children of parents with a high level of skill as socialization agents, irrespective of their language background along a continuum of Spanish-bilingual-English upon entry into school, achieved at a higher level both at the beginning and end of the intervention program than did the children of parents with a low level of skill as socialization agents. However, the achievement of both groups of children increased by approximately the same amount between the beginning and end of the program. Since the intervention appeared to have a uniform influence upon the achievement of children entering the program from more favorable and less favorable home learning environments, the effect of parent involvement did not serve to remove or change the pattern of the relationship between home environment and achievement putatively antedating the intervention. In other words, the compensatory program did not offset the fact that children from high socialization-EPV homes had an achievement advantage over children from low socialization-EPV homes.. This finding of differences within a low SES population is in accordance with previous research showing the stable achievement advantage of middle SES children over low SES children when both groups participate in preschool programs (Guidubaldi et al., 1974).

Although it is beyond the scope of this study to delve into the complex issues of equality of educational opportunity so exhaustively discussed by Jencks et al., (1972), it would seem that an implicit goal held by some proponents of compensatory education to the effect that compensatory programs should serve to remove the relationship between home environment and achievement is a goal that is unlikely to be attained when all groups of children are given similar formal educational treatments.

The finding that children's home language upon entry into the program did not influence their achievement level is contrary to that of Henderson (1966) and of Spence et al., (1971) who found that first-grade Spanish monolingual speakers performed at a lower level than bilingual children. This difference may be due to a difference in the instrument used in this study which as a rating scale did not directly ask children to perform in a test situation as was required in the studies cited above which employed standardized norm referenced tests. The importance of using test instruments that elicit rather than suppress the performance of minority children cannot be underestimated (Cole et al., 1971). The results of this study support those of Saldate (1972) in finding no differences in the achievement levels of children from bilingual and Spanish monolingual backgrounds.

There were no differences in the socialization-EPV levels of parents whose children entered the program as bilingual, Spanish, or English speakers on either the pretest or the posttest HVS. This latter finding is in contradiction to that of Steward and Steward (1973) who found that the teaching skills of Spanish speaking Mexican-American mothers were lower than those of bilingual Mexican-American mothers.

In that study, parents were not involved in an intervention program and so there was in essence no treatment effect, except those of the experiment itself, upon parents' competencies as socialization agents. In this present study there was an opportunity for the treatment effect of the intervention to influence both pretest and posttest HVS measures. In addition, it must be remembered that in this study, adult subjects were grouped upon the basis of child's entry language which is not identical to parental language in all cases.

In contrast to socialization-EPVs, the broader dimension of enculturation-EPVs, as measured by the HELPS, was not related to the achievement of children participating in the early intervention program. The result was at variance with previous research concerning the relationship of EPVs to intelligence and achievement by Wolf (1964), Dave (1963), and others following them. This may be attributed to (1) differences between parents' responses to open-ended interview questions and the Likert-type responses on the HELPS questionnaire used in this study, (2) differences between measures of IQ and elementary school achievement and measures of preschool achievement indicating children's overall developmental level, and/or (3) attenuation in the sample of this present study due to the compression of SES variables in the selection of Title I program participants. It should be remembered that the HELPS data is questionnaire data and may reflect some acquiesence to the social desirability nuances of some of the items and thus have resulted in inflated scores.

In any event, the general EPV approach to studying factors in family environments related to achievement does not seem to function well

in intervention research. The finding of no significant differences between pre and posttesting on the HELPS further suggests that the enculturation-EPVs refer to stable environmental characteristics unlikely to change as a result of intervention. The educational significance of the improvement seen in parents' scores on the HELPS Environmental Stimulation subscale is unclear because of the lack of relationship between total HELPS scores and achievement. It may well be that the HELPS which reflects the standard middle class cultural model of family competency does not differentiate family competency dimensions within lower SES minority environments.

These results indicate that intervention research proposing to demonstrate the impact of parent involvement upon children's early school achievement should employ measurement devices which specifically relate to parent-child socialization learning processes and to parental activities within the intervention design rather than attempt to document changes in the more stable but elusive enculturation-EPVs.

Table 1. Analysis of Variance of Children's Achievement as a Function of Parent Level on the HVS and Child's Entry Language

Source	SS	df	MS	F
Between HVS Groups	14,173.42	1	14,173.42	21.49***
Between Language Groups	2,663.42	2	1,331.71	2.02
Between Trials	36,990.17	1	36,990.17	125.30***
HVS x Language	55.73	2	27.86	.04
HVS x Trials	105.88	1	105.88	.36
Language x Trials	1,716.23	2	858.11	2.91
HVS x Language x Trials	737.83	2	368.92	1.25
Error (HVS)	65,952.71	100	659.53	--
Error (Language)	29,521.41	100	295.21	--

*** $p < .001$.

Table 2. Pretest and Posttest Means and Standard Deviations for Children on the ES by Parent HVS Level and Child's Entry Language

Group	N	Pretest M	Pretest SD	Posttest M	Posttest SD
High HVS:	52	82.73	23.54	112.12	18.69
Bilingual	22	85.86	23.94	119.55	19.23
Spanish	20	76.95	25.79	109.00	20.92
English	10	87.40	18.16	102.00	13.02
Low HVS:	54	64.11	14.43	93.61	20.42
Bilingual	18	64.94	14.34	102.61	21.39
Spanish	26	63.19	15.19	88.04	18.42
English	10	65.00	12.59	91.90	23.87
Total	106	73.25	18.90	102.69	19.57

Mean across Trials for High HVS Group = 97.42.

Mean across Trials for Low HVS Group = 78.86.

Table 3. Pretest and Posttest Means on the ES for Children with Different Entry Languages

	Bilingual (N = 40)	Spanish (N = 46)	English (N = 20)
Pretest Means	76.45	69.17	76.20
SD	19.62	19.80	15.38
Posttest Means	111.92	97.15	96.95
SD	20.20	19.51	18.45
Difference (Means)	35.47	27.98	20.75
Across Trials Means	94.19	83.16	86.58

Table 4. Means and Standard Deviations for Children on the ES Across Trials by Parent HVS Level and Child's Entry Language

Group	N	$\bar{X}$	SD
High HVS-Bilingual	22	102.70	21.59
High HVS-Spanish	20	92.98	23.36
High HVS-English	10	94.70	15.59
Low HVS-Bilingual	18	83.78	17.87
Low HVS-Spanish	26	75.62	16.81
Low HVS-English	10	78.45	18.23

Table 5. Summary Data and Analysis of Variance on the HVS of Subgroups of Parents Blocked on Child's Entry Language

Groups	N	Pretest $\bar{X}$	Posttest $\bar{X}$	Group $\bar{X}$
Bilingual	39	18.56	23.64	21.10
Spanish Monolingual	45	18.20	21.22	19.71
English	20	17.35	21.75	19.55
Total	104	18.17	22.23	

Source	df	MS	F
Between	103	65.33	
Groups	2	50.98	.78
Error (G)	101	65.61	
Within	104	26.43	
Trials	1	856.17	46.81***
Interaction (G x T)	2	22.78	1.25
Error (T)	101	18.29	

***p < .001, two-tailed.

Table 6. Differences Between Correlated Means for 50 Parents on the HELPS

Subscale	Pretest $\bar{X}$	Pretest SD	Posttest $\bar{X}$	Posttest SD	Diff.
1. Aspiration	29.98	3.59	29.80	3.90	-.18
2. Environmental Stimulation	48.24	9.16	52.06	9.19	3.82**
3. Models	47.22	6.92	46.60	7.80	-.62
4. Guidance	39.36	6.50	40.44	4.87	1.08
5. Reinforcement	28.68	2.21	28.68	1.96	.00
Total	193.48	19.07	197.58	20.26	4.10

**p < .01.

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Table 7. Mean Item Score for Scales and Total HELPS and Percentage of Total Score Contributed by Each Scale

Scale	Items N	Items %	Pretest $\bar{X}$	Pretest %	Posttest $\bar{X}$	Posttest %
1. Aspiration	7	12.7	4.28	15.5	4.26	15.1
2. Environmental Stimulation	17	30.9	2.84	24.9	3.06	26.3
3. Models	14	25.5	3.37	24.4	3.33	23.6
4. Guidance[a]	11	20.0	3.58	20.3	3.68	20.5
5. Reinforcement	6	10.9	4.78	14.8	4.78	14.5
Total	55	100.0	3.52	99.9	3.59	100.0

[a]Two items were eliminated from this scale and assigned a constant of one point in the data analysis which necessarily depressed the means for the scale.

Table 8. Differences Between Uncorrelated Means for Three Sample Groups of Parents on the HELPS

	N	$\bar{X}$	SD	Alpha
Pretest				
Dropout Group	22	188.73	18.03	.7734
Pre-post Group	50	193.48	19.07	.7701
Difference		4.75 (N.S.)		
Posttest				
Posttest Only Group	33	199.64	19.99	.8106
Pre-post Group	50	197.58	20.26	.8353
Difference		2.06 (N.S.)		

Table 9. Differences Between Correlated Means for 50 Parents on Selected HELPS Items

Scale	Pretest $\bar{X}$	Pretest SD	Posttest $\bar{X}$	Posttest SD	Diff.
2. Environmental Stimulation	46.46	8.74	50.08	8.46	3.62**
3. Models	42.82	6.29	42.00	7.13	-.82
4. Guidance	34.04	6.28	35.14	4.30	1.10
5. Reinforcement	28.68	2.21	28.68	1.96	.00
Total	152.00	16.80	155.90	16.73	3.90

**p < .01.

Table 10. ES Means for Children of 25 High and 25 Low Scoring Parents on the Reduced HELPS

	High HELPS $\bar{X}$	High HELPS SD	Low HELPS $\bar{X}$	Low HELPS SD	Diff.
Groups Blocked on HELPS Pretest:					
ES Pretest	81.28	24.55	69.12	19.68	12.16*
ES Posttest	108.00	21.43	99.96	24.10	8.04
Groups Blocked on HELPS Posttest:					
ES Pretest	73.60	25.17	76.80	20.68	3.20
ES Posttest	106.36	19.28	101.60	26.32	4.76

*p < .1, z = 1.89.

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Table 11. Means, Standard Deviations, and Intercorrelations of 50 Parents on the HELPS and HVS and 50 children on the ES

	$\bar{X}$	SD	2	3	4	5	6
1. HELPS Pretest	152.0	16.8	.53**	.13	.21	.21	.16
2. HELPS Posttest	155.9	16.7		.14	.36**	.08	.16
3. HVS Pretest	18.6	6.6			.51**	.46**	.37**
4. HVS Posttest	22.4	6.2				.22	.66**
5. ES Pretest	75.4	23.0					.45**
6. ES Posttest	103.6	22.8					

**$p \leq .01$ ($r = .36$, 48 df).

Table 12. Differences Between Correlations for HVS-ES and Correlations for HELPS-ES (Correlations Listed for HVS-HELPS)

	HVS-ES	HELPS-ES	Difference	HVS-HELPS
	r_1	r_2	$z_{r1} - z_{r2}$	r
Pretest	.46	.21	.284	.13
Posttest	.66	.16	.632**	.36**

**$p < .01$.

Figure 1. Mean Evaluation Scale Scores for High and Low Home Variables Scale Groups Plotted Separately by Child's Entry Language

Figure 2. Mean Pretest and Posttest Evaluation Scale Scores Plotted Separately by Child's Entry Language

Appendix A

The Home Variable Scale

The items contained within the Home Variable Scale are listed below. The numbers preceding each item refer to the position of the item in the larger Home Visitation Report.

HOME VARIABLES SCALE:

13. Which of the following best summarized the parent's attitude toward the home visitation?

    1. hostile
    2. reluctant
    3. indifferent
    4. pleased
    5. enthusiastic

15. How did the parent attempt to guide the child's behavior?

    threats, punishments____(1):____(2):____(3):____(4):____(5):praise, rewards positive replies

16. To what extent did the parent copy or use your teaching methods?

    very little____(1):____(2):____(3):____(4):____(5):a great deal

17. To What extent did the parent give reasons for requests made of the child?

    very little____(1):____(2):____(3):____(4):____(5):a great deal

18. To what extend does the parent specifically label objects in talking to the child?

    very little____(1):____(2):____(3):____(4):____(5):a great deal

19. To what extent does the parent attempt to develop the child's higher thinking ability (concepts, relationships, sequence, comparisons) in talking to the child?

    very little____(1):____(2):____(3):____(4):____(5):a great deal

22. Which of the following summarizes the parent's participation in the project on school volunteer days?

1. erratic and reluctant
2. steady but passive
3. steady and active when encouraged by teacher or aide
4. steady and initiates appropriate activities with own child
5. steady and initiates appropriate activities with more than own child

Appendix B

Procedure for Determining Child's Entry Language

Children were placed into one of three entry language groups, bilingual Spanish-English, Spanish, or English. Subjects were divided into language groups on the basis of teacher and aide responses to items concerning child's entry language and parent's spoken language on the spring Home Visitation Report. While it is recognized that some error may have resulted from this method of categorizing children by language, at this point in the program teachers and aides had considerable experience in working with the children and parents in the program. In addition, at least one member of the staff at each of the eight program centers was a Spanish-English bilingual speaker. The child's entry language was the major consideration in assigning subjects to a language category. However, due to ambiguity, if the child's language had been rated according to response 4 or 5, predominantly Spanish or English, the child's placement into a language category was based upon a match with that of his parent's language. If the parent was bilingual the child was placed in the bilingual category but if the parent was predominantly Spanish or English or monolingual the child was placed in the monolingual category. Twenty percent of the total group were placed into language categories this way. This included twenty-eight percent of the low HVS subjects (seven Spanish, seven bilingual, and one English) and twelve percent of the high HVS subjects (five bilingual and one Spanish). The two language items on the HVR are listed on the following page.

25. What language(s) is spoken by the child's parent(s)?

    1. Spanish only
    2. English only
    3. Both Spanish and English
    4. Predominantly Spanish
    5. Predominantly English

26. What language(s) did this child speak when he was enrolled in the program?

    1. Spanish only
    2. English only
    3. Both Spanish and English
    4. Predominantly Spanish
    5. Predominantly English

The above classification of children by language background resulted in placing 40 children into the bilingual group, 46 into the Spanish group and 20 children into the English group.

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